

PATENT SPECIFICATION



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PROVISIONAL SPECIFICATION.

Improvements in or relating to Brushes.

We, CHARLES BARNETT, a subject of the King of Great Britain, and WILLIAM BARNETT, a subject of the King of Great Britain, both of Sandringham Works, Enfield Highway, in the County of Middlesex, Brush Manufacturers, do hereby declare the nature of this invention to be as follows:—

This invention relates to brushes and has particular though not exclusive reference to brushes for cleaning the hands and nails, the chief object being to provide an improved form or construction of brush with which the nails can be satisfactorily cleansed and the hands gently but efficiently brushed without roughening the skin.

According to this invention, the bristles are set or fixed in a flat surface of a backing or stock and at their outer ends are cut or shaped at an inclination to the said flat surface of the stock so that the brushing surface of the bristles extending along the whole length of the stock lies at an angle to the flat surface of the backing or stock. The bristles are cut generally in a transverse direction and the cuts may be at different inclinations or in different positions in relation to the flat surface of the stock. The bristles which generally are set at right angles to the flat surface of the stock may be arranged in rows of separate tufts each of which is set in a hole in the stock, but the tufts may be smaller and more widely spaced apart than is usual.

In one form of the brush, the outer ends of the bristles are cut in two planes in such positions as to form an angular or V-shaped brushing surface or space in the bristles extending along the whole length of the brush. The apex or point where the two cut or inclined surfaces or ends of the bristles meet may be midway between the sides or edges of the brush

and the shortest row or rows of bristles may be at or adjacent to this apex or point from which the bristles gradually increase in length towards each outside row of bristles. The shorter row or rows of bristles at or adjacent to the apex of the V-space extending along the brush are used for cleaning the nails and being comparatively short they are stiffer than the outer and longer rows so that they enable the nails to be very effectively cleaned. Moreover as each tuft of bristles is cut at an angle in relation to its length a pointed extremity is afforded which readily enters under the nail and materially assists in the cleaning of the nails. The longer bristles are used for cleaning the hands generally and as they are comparatively flexible they do not injure or unduly scrub or scrape the skin. The V-shaped space enables the brush to fit more or less closely around the fingers or knuckles and the sides of the hand when the bristles between the shortest and longest rows mainly come into use. It will be understood that each tuft of bristles is definitely cut at an angle relatively to its length or to the flat surface of the stock, and the bristles in wearing down and becoming shorter maintain this angular form or condition at their ends so that the inclined brushing surface or surfaces formed by the ends of the bristles is or are more or less maintained throughout the life of the brush. As a result, uneven wearing down of the bristles such as usually takes place in the ordinary form of nail brush is avoided. Owing to the tufts being more widely spaced apart than is usual, there is not the tendency for the outer ends of the bristles to be mingled when displaced and to be held in the displaced positions as often occurs with the ordinary nail brush. Moreover, the more widely spaced tufts enable the

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soap to be more easily washed out or removed from the bristles thus preventing the objectionable accumulation which invariably exists in the ordinary
5 nail brush which has been in use for some time.

Instead of V-cutting the bristles as aforesaid, the inclined cutting may extend entirely across the bristles, such a construction being particularly suitable for
10 narrow brushes.

In all cases the shorter and stiffer bristles are used for nail cleaning and the longer and more flexible bristles are used
15 for cleaning different parts of the hand as hereinbefore referred to. The stock may be made of any suitable material

and of any suitable shape. In one construction, the stock has grooved sides and a grooved back. Preferably the surface in which the bristles are set is flat and the bristles are preferably disposed at right angles thereto, but the surface and the bristles may be arranged or disposed in any fashion so long as the outer ends of the bristles are cut or arranged at an inclination as herein set forth.

Dated this 15th day of November, 1923.

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Agents for the Applicants.

COMPLETE SPECIFICATION.

Improvements in or relating to Brushes.

We, CHARLES BARNETT and WILLIAM
35 BARNETT, both subjects of the King of Great Britain, and both of Sandringham Works, Enfield Highway, in the County of Middlesex, Brush Manufacturers, do hereby declare the nature of this invention and in what manner the same is to
40 be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to brushes and
45 has particular though not exclusive reference to brushes for cleaning the hands and nails, the chief object being to provide an improved form or construction of brush with which the nails can be satisfactorily cleansed and the hands gently
50 but efficiently brushed without roughening the skin.

According to this invention some or all of the bristle tufts which are set or
55 fixed in a flat surface of the stock or backing at right angles thereto have their outer ends bevelled in the same transverse plane so as to form a continuous brushing surface which is disposed at an inclination to the flat stock surface and
60 extends along the whole length of the brush. By such an arrangement bristles of different lengths are provided, the shorter and stiffer ones being for instance
65 particularly suitable for nail cleaning whilst the longer ones may be more especially intended for brushing the different parts of the hands. One or more inclined brushing surfaces produced by bevelled ends of the tufts of bristles
70 lying in the same inclined plane may be provided on the brush and may in some cases be used with bristles which are cut to form a brushing surface which is

parallel with the flat surface of the stock. The preferred form is one in which the bristles are cut to produce two inclined brushing surfaces arranged so as to form a V-shaped brushing space or surface
80 along the brush.

In order that the said invention may be clearly understood and readily carried into effect, the same will be more fully described with reference to the accompanying drawings, in which:—
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Figures 1, 2 and 3 are respectively a side view, an end view and a sectional view (taken on the line 3—3 of Figure 1) of one construction of a so-called nail brush of which the bristles are formed or
90 arranged to produce a V-shaped brushing surface.

Figures 4, 5 and 6 are sectional views of nail brushes having different forms and arrangements of bristles according to this
95 invention.

In the various examples illustrated A indicates the brush stock and B indicates the bristles which are arranged in separate tufts disposed in rows and are set in any appropriate manner at right angles to the flat surface A¹ of the stock, the tufts being preferably of conical shape as shown.
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In the example shown in Figures 1 to 3 the outer or free ends or parts of the bristles are cut in two planes inclined with regard to the flat stock surface so as to form two inclined brushing surfaces B¹ which provide an angular or obtuse V-shaped brushing space or surface
110 extending along the entire length of the brush. The apex or point where the two inclined brushing surfaces meet is, as shown, midway between the sides of
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the brush and the shortest rows of bristles may be disposed one on each side of the medial line between the sides of the brush but the arrangement may be such that the apex or point of the V-shaped brushing surface or space is disposed in a single row of bristles located in the said vertical medial line. In either case, the bristles gradually increase in length from the inner and shortest row or rows to each outer row of bristles. The shorter row or rows of bristles at or adjacent to the apex of the V-space extending along the brush are used for cleaning the nails and being comparatively short they are stiffer than the outer and longer rows and therefore penetrate under the nails so that the nails can be very effectively cleaned. Moreover as each tuft of bristles is cut or bevelled at an angle in relation to its length a pointed extremity is afforded which increases the penetrative effect. The longer bristles nearer the sides of the brush are used for cleaning the hands generally and as they are comparatively flexible they do not injure or unduly scrub or scrape the skin. The V-shaped space afforded by the two inclined brushing surfaces B¹ enables the brush to fit more or less closely around the fingers or knuckles and the sides of the hand when the bristles between the shortest and longest rows mainly come into use. It will be understood that each tuft of bristles is definitely cut or bevelled at an angle relatively to its length or to the flat surface of the stock, and the bristles in wearing down and becoming shorter maintain this angular form or condition at their ends so that the inclined or angular brushing surfaces formed by the ends of the bristles are maintained throughout the life of the brush. As a result, uneven wearing down of the bristles such as usually takes place in the ordinary form of nail brush is avoided. All the tufts of bristles are pointed owing to the cut or bevelled ends, which generally increases the penetrative effect of each individual tuft but as all the tufts in each brushing surface are cut at the same angle and in the same plane a flat surface can be pressed against the hand. The bevelling or cutting of the tufts at an inclination to their centre lines strengthens each individual tuft and owing to this the tufts can be made smaller and can be more widely spaced apart than is usual. The tufts are however sufficiently flexible to splay out according to the pressure applied, and by increasing the pressure the shorter bristles are brought more prominently into use so that a varying stiffness is afforded according to the extent to which

the brush is pressed against the hand. Owing to the tufts being more widely spaced apart than is usual, there is not the tendency for the outer ends of the bristles to be mingled when displaced or to remain in mingled or entangled condition as often occurs with the ordinary nail brush. Moreover, the widely spaced tufts enable the soap to be more easily washed out or removed from the bristles thus preventing the objectionable accumulation which invariably exists in the ordinary nail brush after it has been in use for some time.

Instead of providing a V-shaped brushing surface all the bristles may be bevelled or cut at the same inclination in a single plane so that the bristles gradually increase in length from the shortest at one side of the brush to the longest at the other side. Such a form may be applied to comparatively narrow brushes but can also be applied to fairly wide brushes such as those illustrated. Figure 4 illustrates an arrangement, wherein the bristles instead of being cut at the same inclination across the brush are cut or bevelled at two angles to form two differently inclined brushing surfaces B², B³ one on each side of the vertical medial line of the brush.

In the example shown in Figure 5, the bristles on one side of the medial line of the brush present at their outer ends a flat brushing surface B⁴ which is parallel with the flat surface A¹ of the stock but the bristles on the other side of the medial line are cut at an inclination to provide an inclined brushing surface B⁵, so that the bristles decrease in length from the medial line to the outer row. The brush shown in Figure 6 is provided with a set of bristles that present a flat surface B⁶ parallel with the flat surface A¹ of the stock, at the middle part of the width of the brush and on each side of this set forming the parallel surface B⁶, the bristles are cut or bevelled to form inclined brushing surfaces B⁷ as shown. In the examples shown in Figures 4, 5 and 6 the shorter bristles are used more especially for nail cleaning, but the different inclined brushing surfaces shown may be used on other parts of the hand such as the knuckles with varying pressure to bring the shorter bristles into use, but those brushing surfaces which are parallel with the flat surface A¹ of the stock A are generally used for cleaning the backs or flatter parts of the hand. In the examples shown the stock A is grooved along its sides so as to enable the brush to be conveniently and securely gripped or held in use and the back is grooved to reduce the weight and to

impart a distinctive appearance to the brush. The bristles are generally of the kind used in nail brushes and the like; any suitable kind of bristles may however be used and rubber strips or tufts or the like may be used instead of the ordinary bristles. The invention is not limited to nail brushes as it may be applied to other brushes of similar shape where the use of long and shorter bristles produced as aforesaid would be of advantage compared with ordinary brushes wherein the brushing surface is parallel to the flat stock surface in which the bristles are set. We are aware that various forms of brushes having bevelled bristles or inclined brushing surfaces have been proposed, and in connection with tooth brushes it has been proposed to employ bristles along the middle of the brush which are shorter than those along the side so as to provide a kind of longitudinal groove or brushing space with the ends of the bristles pointed, flat or otherwise formed but not bevelled to produce continuous transversely inclined brushing surfaces as in the present invention.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. A brush wherein some or all of the bristle tufts which are set in and at right angles to a flat surface of the stock or backing have their outer ends bevelled in the same transverse plane so as to form a continuous brushing surface which is disposed at an inclination to the flat stock surface and extends along the whole length of the brush substantially as described for the purpose specified.

2. A brush as in Claim 1 in which the outer ends of the bristles are bevelled to

form two transversely inclined and continuous brushing surfaces extending along the whole length of the brush substantially as described for the purpose specified.

3. A brush as in Claim 1 or Claim 2 in which the bristles are cut or formed to produce two inclined and continuous brushing surfaces which are arranged to form a V-shaped brushing space or surface along the length of the brush substantially as described for the purpose specified.

4. A brush as in Claim 1 or Claim 2 in which separate conical tufts of bristles set in rows in and at right angles to a flat surface of the stock are cut in two planes only, to form an obtuse V-shaped brushing surface along the whole length of the brush so that the bristles gradually increase in length from the row or rows adjacent to the apex of the said V-shaped brushing surface to the outer rows disposed at the sides of the brush substantially as described for the purpose specified.

5. A brush as in Claim 1 in which some of the bristles are formed to provide one or more inclined brushing surfaces whilst others are formed to provide a brushing surface which is parallel to the flat stock surface in which the bristles are set substantially as described for the purpose specified.

6. A brush having its stock and bristles formed and arranged substantially as hereinbefore described with reference to any of the examples illustrated in the accompanying drawings.

Dated this 19th day of May, 1924.

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15, Park Row, New York, N.Y., U.S.A., Agents for the Applicants.

[This Drawing is a reproduction of the Original on a reduced scale.]

